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EXAMINER	
CALANDRA, ANTHONY J	
ART UNIT	PAPER NUMBER
1791	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,775	SIPILA ET AL.	
	Examiner	Art Unit	
	ANTHONY J. CALANDRA	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Office Action

1. The communication dated 7/11/2008 has been entered and fully considered.

2. Claims 22-44 are currently pending.

Claim Objections

3. In view of amendment the objection to the claim has been withdrawn

Claim Rejections - 35 USC § 112

4. In view of amendment the rejections to the claims have been withdraw.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 22-25, 29, 30, 31, 32, 33, 34, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,223,090 KLUNGNESS et al., in view of U.S. Patent 6,416,727 VIRTANEN, hereinafter VIRTANEN and Handbook for Pulp and Paper Technologists by SMOOK, hereinafter SMOOK.

As for claim 22, KLUNGNESS discloses a method for manufacturing paper loaded with calcium carbonate [abstract]. KLUNGNESS discloses a precipitation reactor, the refiner (*providing a precipitation reactor* [column 7 lines5-12]). KLUNGNESS discloses that the fibers, which have a capacity for bonding, are sent to the refiner after being mixed with calcium hydroxide, a reactive mineral *(providing a fiber material comprising fibers to be used as a raw material for the paper pulp, the fibers in the fiber material having a certain capacity for bonding and providing a reactive mineral material* [column 1 lines 25-29, column 6 lines 8-17, column 7 lines 7-12]). KLUNGNESS then discloses carbon dioxide a gas capable of precipitating out the reactive mineral (*providing a gas containing a precipitant capable of precipitating the reactive mineral material* [column 7 lines 16-20]). The refiner plates of KLUNGNESS et al. act as a precipitation zone within the reactor (*providing an activation zone in front of the precipitation reactor or inside the precipitation reactor* [column 7 lines 5-12]). The calcium hydroxide and fibers are combined to form a suspension (*combining the reactive mineral material and the fiber material to form a fiber suspension* [column 6 lines 8-17]*).* The refiner acts to activate the fibers to enhance fiber bonding (*activating the fiber suspension in the activation zone in order to enhance the capacity of the fibers for bonding* [column 7 lines 16-20]). Carbon dioxide gas is fed into the refiner (*feeding the gas comprising the precipitant inside the precipitation reactor* [column 7 lines 35-40]). The refiner serves to mix the fibers, calcium hydroxide and carbon dioxide and refine the fibers while precipitating out carbon dioxide. The fibers with precipitated calcium carbonate are then discharged from the refiner (*bringing the dispersed and activated fiber suspension into contact with the precipitant of the reactive mineral material in the precipitation reactor in order to at least partly precipitate the reactive mineral material discharging the*

treated fiber suspension from the precipitation reactor [column 7 lines 35-40 and 47-60]). KLUNGNESS et al. discloses that the calcium carbonate loaded pulp is made into paper. KLUNGNESS does not disclose the common steps of making the paper including sending the paper solution to the forming section of a paper machine, removing water from the paper through a permeable base, and then drying the paper web to form paper (*feeding the paper pulp containing precipitated mineral material at a predetermined consistency into a forming section of a paper machine; removing water from the paper pulp by allowing the pulp to drain through a water permeable forming base; and drying and finishing the paper web thus produced in order to produce a finished paper product* [column 1 lines 25-35]).

KLUNGNESS et al. does not state that the paper is 'finished'; however finishing is well known and commonly practiced technique in the paper making industry. SMOOK discloses finishing such as calendaring. At the time of the invention it would have been *prima facie* obvious to a person of ordinary skill in the art to 'finish' the paper of KLUNGNESS. A person of ordinary skill in the art would be motivated to calendar the paper since most papers are calendared [SMOOK pg. 272].

KLUNGNESS et al. does not disclose dispersing the fiber suspension in drops or particles into the precipitation reactor. VIRTANEN discloses a calcium carbonate precipitation process wherein the calcium hydroxide is dispersed in a mist (drops), and then precipitates out in carbon dioxide [abstract]. At the time of the invention it would have been obvious to perform the fiber loading process of KLUNGNESS et al. by dispersing the fiber/calcium hydroxide as a mist through carbon dioxide as taught by VIRTANEN and using the pin mill of VIRTANEN as the activating refiner (*dispersing the fiber suspension in drops or particles into the precipitation*

reactor). A person of ordinary skill in the art would be motivated to combine the fiber loading process of KLUNGNESS et al. with the pin mill apparatus of VIRTANEN because VIRTANEN teaches that the pin mill apparatus has a low retention time [abstract], and because gas phase dispersion is used only 1/1000 of the energy is required as the liquid phase dispersion [column 3 lines 39-50]. VIRTANEN also states that disc (the refiner of KLUNGNESS) or cone refiners [column 4 lines 20-25] can also meet the purpose of the disclosed invention. Further, it would be *prima facie* obvious to substitute known one type of grinding device such as a disk refiner for another known grinding device such as a pin mill for the same purpose for known and predictable results.

As for claim 23, KLUNGNESS et al. discloses calcium hydroxide [column 7 lines 42-48].

As for claim 24, KLUNGNESS et al. discloses the precipitant carbon dioxide [column 7 lines 16 and 17].

As for claim 25, KLUNGNESS et al. discloses refining which activates the fibers by grinding and fibrillating them in a disk refiner [column 7 lines 15-40]. Alternatively, the pin mill of VIRTANEN would also serve to grind the pulp and therefore activate it [Figure 3 and column 5 lines 20-23].

As for claim 29, VIRTANEN discloses that the residence time of a pin mill where the activation would take place is less than 1 second [abstract].

As for claim 30 and 31, VIRTANEN discloses that the carbon dioxide should have a degree of purity of 90% or more, which the examiner has interpreted as nearly pure carbon

dioxide. KLUNGNESS et al. discloses that the carbon dioxide should be supplied to the refining/precipitation unit as a pressurized gas [column 7 lines 23-24].

As for claim 32, VIRTANEN discloses that the precipitation reactors (the pin mill refiners) can be connected in series [figure 1a and 1b]

As for claim 33, both KLUNGNESS and VIRTANEN disclose calcium hydroxide. KLUNGNESS et al. further discloses that the calcium hydroxide is added to change the desired opacity of the paper [column 2 lines 7-11].

As for claim 34, KLUNGNESS et al. discloses chemical and mechanical pulps [column 1 lines 58-60].

As for claim 35, KLUNGNESS et al. discloses chemical pulps. All chemical pulps contain residual mineral impurities such as sodium carbonate and other substances not removed during screening such as excess dirt or shives. A mechanical pulp contains fiber based fines.

As for claim 36, KLUNGNESS discloses that the pulp is fed at 5 to 15% consistency which overlaps with the instant claimed range [column 7 lines 5-10].

8. Claims 26-28 and 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over KLUNGNESS et al., in view of U.S. Patent 6,416,727 VIRTANEN, hereinafter VIRTANEN and Handbook for Pulp and Paper Technologists by SMOOK, hereinafter SMOOK, as applied to claims 22-25, 29, 30, 31, 32, 33, 34, 35, and 36 above, and further in view of WO 96/18454, hereinafter '454.

As for claim 26 and 27, VIRATANEN discloses a pin mill mixer which will supply impact and counter impacts as it is the same device as the instant claim [Figure 3]. VIRTANEN et al. further discloses an impact mill type flow through mixer, a pin mill mixer. VIRTANEN discloses that every other cage can act as a rotor [Figure 4] or all the cages can act as a rotor [Figure 3]. VIRTANEN discloses grinding pins which the examiner has interpreted as blades [column 5 lines 10-22]. The suspension flows through the pin mill mixer/refiner as shown in Figures 3 and 4. VIRTANEN et al. does not disclose the speed of the pin mill. '454 publication discloses that the pin mill should be run at a speed of 20-200 m/s. At the time of the invention it would have been obvious to a person of ordinary skill in the art to run the pin mill at the speed disclosed by '454 publication. It is *prima facie* obvious to apply a known technique such as operation speed to a known device such as a pin mill. A person of ordinary skill in the art could readily expect the pin mill to refine pulp and cause impact forces on the pulp moving through it at these speeds. Alternatively, it would have been prima facie obvious to optimize the speed of the concentric rotors as speed has a direct effect on the refining of the fibers and hence the uptake of precipitated calcium carbonate [KLUNGNESS column 7 lines 13-15 and see e.g. MPEP 2144.05 (II) (B) Optimization of ranges and result effective variables]. The rotating of the cages of VIRTANEN impacts/mills the fibers and subjects them to shearing/turbulence.

As for claim 28, VIRTANEN discloses that carbon dioxide can be fed into the turbulent zone (activation zone) at different intermediate stages of the carbonating process [column 4 lines 65-67 column 5 line 1-4].

As for claim 37, KLUNGNESS discloses a method for manufacturing paper loaded with calcium carbonate [abstract]. KLUNGNESS discloses a precipitation reactor, the refiner

(*providing a precipitation reactor* [column 7 lines5-12]). KLUNGNESS discloses that the fibers, which have a capacity for bonding, are sent to the refiner after being mixed with calcium hydroxide, a reactive mineral is mixed with the fiber *(providing a fiber material comprising fibers to be used as a raw material for the paper pulp, the fibers in the fiber material having a certain capacity for bonding and providing a reactive mineral material* [column 1 lines 25-29, column 6 lines 8-17, column 7 lines 7-12]). KLUNGNESS then discloses carbon dioxide a gas capable of precipitating out the reactive mineral (*providing a gas containing a precipitant capable of precipitating the reactive mineral material* [column 7 lines 16-20]). The calcium hydroxide and fibers are combined to form a suspension (*combining the reactive mineral material and the fiber material to form a fiber suspension* [column 6 lines 8-17]*)*. The refiner acts to activate the fibers to enhance fiber bonding (*activating the fiber suspension in the activation zone in order to enhance the capacity of the fibers for bonding* [column 7 lines 16-20]). Carbon dioxide gas is fed into the refiner (*feeding the gas comprising the precipitant inside the precipitation reactor* [column 7 lines 35-40]). The refiner serves to mix the fibers, calcium hydroxide and carbon dioxide and refine the fibers while precipitating out in the carbon dioxide. The fibers with precipitated calcium carbonate are then discharged from the refiner (*bringing the dispersed and activated fiber suspension into contact with the precipitant of the reactive mineral material in the precipitation reactor in order to at least partly precipitate the reactive mineral material discharging the treated fiber suspension from the precipitation reactor* [column 7 lines 35-40 and 47-60]). KLUNGNESS et al. discloses that the calcium carbonate loaded pulp is made into paper. KLUNGNESS does not disclose the common steps of making the paper including sending the paper solution to the forming section of a paper machine, removing water from the paper through

a permeable base, and then drying the paper web to form paper (*feeding the paper pulp containing precipitated mineral material at a predetermined consistency into a forming section of a paper machine; removing water from the paper pulp by allowing the pulp to drain through a water permeable forming base; and drying and finishing the paper web thus produced in order to produce a finished paper product* [column 1 lines 25-35]).

KLUNGNESS et al. does not state that the paper is 'finished'; however finishing is well known and commonly practiced technique in the paper making industry. SMOOK discloses finishing such as calendering. At the time of the invention it would have been *prima facie* obvious to a person of ordinary skill in the art to 'finish' the paper of KLUNGNESS. A person of ordinary skill in the art would be motivated to calender the paper since most papers are calandered [SMOOK pg. 272].

KLUNGNESS et al. does not disclose dispersing the fiber suspension in drops or particles into the precipitation reactor. VIRTANEN discloses a calcium carbonate precipitation process wherein the calcium hydroxide is dispersed in a mist (drops), and then precipitates out carbon dioxide [abstract].

VIRTANEN et al. further discloses an impact mill type flow through mixer, a pin mill mixer. VIRTANEN discloses that every other cage can act as a rotor [Figure 4] or all the cages can act as a rotor [Figure 3. The suspension flows through the center of the pin mill and then radially through outer cage exit from the pin mill mixer/refiner as shown in Figures 3 and 4. *(every other cage functions as a rotor, and the cages adjacent to the mentioned cages function as stators or rotors, feeding apparatus for feeding the fiber material mainly into the center of the cages; and an open outer cage that allows the fiber suspension to flow radially outwards*

through the cages to exit the cage in different directions, or an outer cage that is provided with one or more outlets in order to discharge the fiber suspension flowing radially outwards from the cages [column 5 lines 10-22 ,Figures 2-4])

At the time of the invention it would have been obvious to perform the fiber loading process of KLUNGNESS et al. by dispersing the fiber/calcium hydroxide as a mist through carbon dioxide as taught by VIRATEN and using the pin mill of VIRATEN as the activating refiner (*dispersing the fiber suspension in drops or particles into the precipitation reactor*).

A person of ordinary skill in the art would be motivated to combine the fiber loading process of KLUNGNESS et al. with the pin mill apparatus of VIRTANEN because VIRTANEN teaches that the pin mill apparatus has a low retention time [abstract], and because gas phase dispersion is used only 1/1000 of the energy is required as the liquid phase dispersion [column 3 lines 39-50]. VIRTANEN also states that disc (the refiner of KLUNGNESS) or cone refiners [column 4 lines 20-25] can also meet the purpose of the disclosed invention. Further, it would be *prima facie* obvious to substitute known one type of grinding device such as a disk refiner for another known grinding device such as a pin mill for the same purpose for known and predictable results.

VIRTANEN et al. does not disclose the speed of the pin mill. '454 publication discloses that the pin mill should be run at a speed of 20-200 m/s which overlaps with the instant claimed range. At the time of the invention it would have been obvious to a person of ordinary skill in the art to run the pin mill at the speed disclosed by '454 publication. It is *prima facie* obvious to apply a known technique such as operation speed to a known device such as a pin mill. A person

of ordinary skill in the art could readily expect the pin mill to refine pulp and cause impact forces on the pulp moving through it at these speeds. Alternatively, it would have been prima facie obvious to optimize the speed of the concentric rotors as speed has a direct effect on the refining of the fibers and hence the uptake of precipitated calcium carbonate [KLUNGNESS column 7 lines 13-15 and see e.g. MPEP 2144.05 (II) (B) Optimization of ranges and result effective variables].

As for claim 38, the fibers of KLUNGNESS et al. are exposed to calcium hydroxide before being sent to a refiner/activator [column 6 lines 13-17]. It is the position of the examiner that these fibers would swell the same as the instant claimed invention as the properties of a substance can not be separated from the composition of the substance and the calcium hydroxide treated fibers of KLUNGNESS et al. are *prima facie* the same as those of the instant application.

As for claim 39 and 40, KLUNGNESS et al. discloses the overlapping range of adding 10 to 40% calcium hydroxide which precipitates into calcium carbonate [column 6 lines 44-45]. VIRTANEN discloses that the precipitated calcium carbonate is nano-sizes [column 2 lines 50-55].

As for claim 41-43, calendering, sizing, and coating are all common, well known process for paper making in the industry. SMOOK discloses all three processes [pg. 272, 283, 286]. At the time of the invention it would have been *prima facie* obvious to a person of ordinary skill in the art to size, calender, or coat the paper of KLUNGNESS/VIRTANEN as it is obvious to apply known techniques to a known product such as paper ready for improvement.

As for claim 44, VIRTANEN et al. does not disclose the speed of the pin mill. '454 publication discloses that the pin mill should be run at a speed of 20-200 m/s. At the time of the invention it would have been obvious to a person of ordinary skill in the art to run the pin mill at the speed disclosed by '454 publication. It is *prima facie* obvious to apply a known technique such as operation speed to a known device such as a pin mill. A person of ordinary skill in the art could readily expect the pin mill to refine pulp and cause impact forces on the pulp moving through it at these speeds. Alternatively, it would have been prima facie obvious to optimize the speed of the concentric rotors as speed has a direct effect on the refining of the fibers and hence the uptake of precipitated calcium carbonate [KLUNGNESS column 7 lines 13-15 and see e.g. MPEP 2144.05 (II) (B) Optimization of ranges and result effective variables].

Response to Arguments

9. Applicant's arguments filed 7/11/2008 have been fully considered but they are not persuasive.

- Applicant argues that the combination does not suggest dispersing a fiber suspension in drops or particles in a precipitation reactor as VIRATEN does not suggest a method that includes a fibers or fiber suspension. Applicant further argues that VIRATEN only discloses using the refiner to precipitate out calcium carbonate which can later be used as conventional fibers. Applicant states that VIRATEN does not suggest the use with fibers.

The teaching, suggestion, motivation test while still a valid rational for determining obviousness is not the only test available. Specifically, the simple

substitution of one known, equivalent element for another to obtain predictable results is *prima facie* obvious under the new KSR rationales. In the instant case it is known that fibers can be loaded with precipitated calcium carbonate by mixing fibers with calcium oxide or hydroxide, subjecting them to carbon dioxide and then refining them in a refiner [column 6 lines 8-25 and column 7 lines 15-40]. KLUNGNESS does not disclose using a pin mill refiner. It is known that a pin mill refiner can be used to precipitate calcium carbonate and that the reaction has a low residence time [abstract]. Further, it is known that pin mill refiners can be used for pulp as evidenced by U.S. Patent 6,202,946 VIRTANEN, hereinafter VIRTANEN II.

Therefore absence evidence of unexpected results it would be *prima facie* obvious to substitute the known refiner of KLUNGNESS with the known refiner of VIRTANEN which is known to allow precipitation reactions of calcium carbonate. Further, the refiner of VIRTANEN II is known in the art to be used for refining fiber. Therefore it is the examiners position that the substitution of the refiner of KLUNGNESS for the refiner of VIRTANEN known to work for both fiber refining and calcium carbonate refining would be obvious to a person of ordinary skill in the art. The outcome of loading fibers with calcium carbonate and further refining the fibers would be expected by a person of ordinary skill in the art.

Alternatively, there is motivation in VIRTANEN to use a pin mill refiner because VIRTANEN teaches that the pin mill apparatus has a low retention time

[abstract], and because gas phase dispersion is used only 1/1000 of the energy is required as the liquid phase dispersion [column 3 lines 39-50].

Once the person of ordinary skill in the art has made the simple substitution of one refiner for the pin mill refiner of VIRTANEN it is clear that the fiber suspension will be dispersed through the air as this is the method by which a pin mill refiner operates as evidenced by VIRTANEN II who states that for fiber suspensions are made to flow together with air or liquid and is dispersed [abstract and column 4 lines 61-67].

- Applicant argues that there are unexpected results including higher filler content as compared to conventional papers and fast and complete precipitation reactions which the combination of KLUNGNESS and VIRATEN do not suggest.

Applicant fails to supply any evidence of the unexpected result of higher filler content of the instant invention as compared to the closest prior art and therefore has no support for the contention of higher filler content [see e.g. MPEP 716.02(b)]. Further paragraph [0018] of the published specification only states that the there is higher calcium carbonate as compared to conventional applications. A conventional application could be considered a non fiber loading process where the PCC or GCC calcium carbonate is only mixed with fibers. KLUNGNESS discloses a fiber loading process which differs from the conventional loading process of mixing fibers with already formed calcium

carbonate. KLUNGNESS discloses higher calcium carbonate loading as compared to a conventional mixing process as the fiber loading process shows higher strength as compared to conventional direct loading [Figures 2-4]. KLUNGNESS additionally states that loading up to 30-50% are used in EUROPE although filler adding affects strength [column 2 lines 15-47], KLUNGNESS improves paper strength properties and thus allows higher loadings. This high range matches that as described in the publication of the instant invention as seen in paragraph [0130].

As for the argument of fast and complete precipitation reactions, VIRATEN discloses that the refiner is able to produce reactions with a residence time less than 1 second and is swift [abstract, column 1 lines 50-65]. There is no evidence or suggestion of record that in either KLUNGNESS or VIRATEN that the reactions do not go to completion. Applicant fails to supply any evidence of the unexpected result of the reaction going to completion as compared to the closest prior art [see e.g. MPEP 716.02(b)]

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. CALANDRA whose telephone number is (571) 270-5124. The examiner can normally be reached on Monday through Thursday, 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJC

/Eric Hug/
Primary Examiner, Art Unit 1791